

### **ABSTRACT**

A switchless combiner for high-power broadcast signals incorporates a circular waveguide configured as an orthogonal mode transducer to provide a coherent signal and a phase rotator to steer the combined signal to an output coupler. Out-of-phase RF is absorbed by a station load. The phase rotator is capable of redirecting the output from either of the sources or all of the combined output to the station load. Switching between destinations for the RF components may be made with power applied. The input and output characteristics and mechanical configuration permit the switchless combiner to be integrated with other high-power RF broadcast signal manipulation devices.